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# *The Florida Citrus Industry*

FEW agricultural enterprises have grown with the rapidity of the Florida citrus industry. From the small commercial production of a century ago, when a few thousand barrels of citrus fruit moved to Northern markets in coastal sailing ships, citrus growing has developed into the state's largest single agricultural enterprise. The 1945-46 Florida citrus crop, valued at 160 million dollars, comprised at least two fifths the total value of all the state's crops. Although outranked in value by cotton and corn in the District this crop had a larger farm value than any other important crop such as tobacco, peanuts, or rice. The extensive processing given a large part of the fruit increases the over-all value of the crop materially. Thus, since virtually all processing is done within the Florida producing area, the citrus crop is far more important in the District economy than the farm-value figures alone indicate.

Although it is not known just when citrus fruits were introduced into Florida, it is certain that they were brought in by the early Spanish explorers and colonists sometime between 1513, when Ponce De Leon first landed in Florida, and 1565, when St. Augustine was founded as the first permanent white colony in the United States. With Spain's formal transfer of the territory to the United States in 1821, commercial development began on a significant scale. Between that time and 1835 considerable progress was made in developing a citrus industry, particularly around the Spanish settlement at St. Augustine. Early shipments were packed in barrels and transported by ship to eastern markets such as Charleston, Baltimore, New York, and Boston.

Within a few years the railroads enabled the extension of citrus growing in areas away from the main waterways and enlarged the market by more rapid transportation. Improved transportation together with a change in methods of propagation marked important advances for the citrus enterprise. Early plantings were mainly seedlings propagated from certain choice trees, but about 1870 propagation by budding and grafting became general. The resulting standardization and improvement of the fruit and the increased tree productivity promoted a rapid expansion of commercial production.

With the development of commercial grapefruit growing in the state the industry advanced further. In other places grapefruit was treated as a curiosity of no practical value, but Floridians soon discovered its good qualities and began to acquaint northern visitors with the fruit. The first shipments were made to Philadelphia and New York sometime between 1880 and 1885. After 1895 production expanded rapidly, within a short time becoming an integral part of the Florida citrus industry.

Florida citrus growers have had their full share of the setbacks and other disappointments that so often accompany the development of a new agricultural enterprise. At first planting locations were selected primarily for the nature of the soil. Little regard was given to protection against cold. But all went fairly well until 1894-95, when production reached about five million boxes. The freezes which paralyzed the industry that winter, however, all but destroyed the groves. In the following year production was only about 160,000 boxes. It took the growers until 1905 to bring production again up to five million boxes. As the principal results of this near disaster growing had shifted southward, with emphasis in the selection of locations placed on cold protection instead of soil characteristics. This shift to central Florida, where the citrus industry is now concentrated, meant that production after 1895 was based on new groves rather than on a recovery of the old ones. Even though the industry thus virtually had to start all over again in a new location, the state soon reached its present position as one of the world's foremost citrus areas.

Citrus is grown to some extent in almost every part of the state, but the commercial producing areas are still concentrated in the central portion and in a narrow strip along the east coast. Although soil is important under conditions of equal cold protection, present grove locations are a result of the lesson learned by the growers in 1894-95. Citrus growing, they have also learned, is adapted to a very wide range of soils where soil drainage is good.

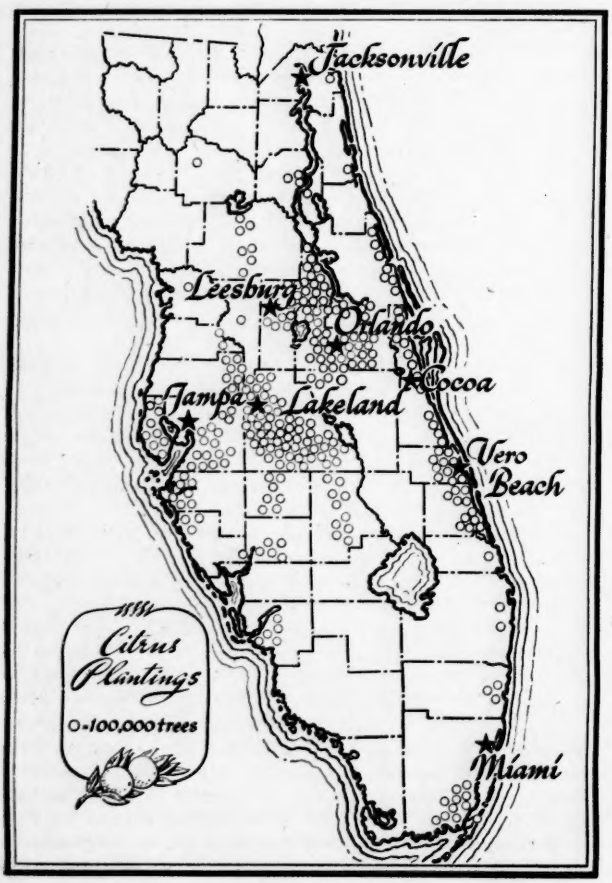
Of the 86 million boxes produced in 1945-46, 49.8 million were in oranges, 32 million in grapefruit, and 4.2 million in tangerines. Florida acres planted to citrus of all ages, it was estimated, in 1944 numbered about 460,000. Bearing acreages were approximated at 385,000 in 1945-46. Since 1905 total production of all citrus fruits has almost consistently doubled every 10 years.

The increases in output during the past 40 years have resulted from such developments as additional plantings; a natural increase in tree productivity because of greater age; and changes in cultural methods. Orange production increased from an average of 11.4 million boxes in the five-year period centered on 1924 to 45.5 million boxes in the five-year period centered on 1944. A utilization of yield curves developed by the Bureau of Agricultural Economics shows approximately what proportions of the increase were caused by new plantings and by the advanced age of trees. Of the total increase during the 20-year period about 40 percent came apparently from new plantings and about 40 percent from the greater age of trees standing in 1924, leaving about 20 percent that came from neither source. In the more recent years of that period production increases attributable to new plantings

have been relatively small. Advanced tree age and higher yields on trees of all ages account for most of them. Although orange production, for example, increased 15.9 million boxes in the period 1939 to 1944, only about 2 percent of that quantity was apparently due to new plantings. About half of it appeared to be the result of factors other than increased age of the trees standing in 1939.

Research workers of the Florida Agricultural Experiment Station at Gainesville have provided further evidence that production increases during the more recent years were not caused entirely by these two factors. Records kept for a 13-year period on an average of 258 groves averaging more than 10 years of age show that the combined production of oranges and grapefruit increased from an average of 132 boxes an acre in the period 1931-32—1937-38 to 222 boxes in the period 1938-39—1943-44. About 68 percent of this increase was attributed to factors other than increased age of trees. During the past decade, therefore, it seems probable that at least half the increase in citrus production for the whole state can be traced to higher yields from trees of the same age.

Yields are usually slow to change in agricultural enterprises as well established as the Florida citrus industry. The magnitude of increases in the yield per acre during the past 10 years, therefore, strongly suggests revolutionary improvements in production methods. Part of the total is, of course, accounted for by recent economic conditions. Production utilized, which is measured by the quantity of fruit removed from the groves, tends to be higher during any period of good prices, when a much larger proportion of all mature fruit is harvested. Therefore, the yield difference between the recent war period and the preceding period of relatively low prices is somewhat exaggerated.




The apparent yield increase attributable to economic conditions, however, is greatly overshadowed by yield changes caused by cultural methods. Changes in fertilizer programs, both in the quantities and the kinds applied, constituted the greatest single factor in the tremendous production increase. Heavier fertilizer applications contributed to some degree, but fertilizer amendments, or so-called minor elements that modify the soil properties without adding much food, were the most important factor.

Although the exact degree of its effects is not known, unquestionably the use of minor elements has contributed a major part of the increase in production during the last decade. Their application in Florida citrus growing illustrates dramatically the influence of agricultural research on production problems. For a number of years it has been known that many elements were essential to the proper nutrition of citrus trees. Fertilizer regimens that include elements other than nitrogen, phosphorous, and potassium, however, are of comparatively recent origin. During the early thirties intensive research indicated with reasonable accuracy which of the specific minor elements were most often limiting factors in citrus production. It was found that manganese, magnesium, zinc, and copper were among the most important that are commonly deficient in Florida citrus soils and fertilizers. At first they were used merely as correctives for specific conditions. If the characteristic symptoms of a copper deficiency, for instance, appeared in a grove the grower applied copper in the proper quantity and form. Beginning about 1937 the idea of using the minor elements solely as a corrective treatment was generally replaced by a plan to use them as a preventive measure. Minor elements were thus made a part of the regular nutritional program recommended for Florida citrus groves.

The research on which this program was based and the early steps in its initiation were primarily the work of A. F. Camp and his associates at the University of Florida's Citrus Experiment Station. Fertilizer companies co-operated with the experiment station by incorporating the minor elements in fertilizer mixtures commonly sold to citrus growers. They also assisted in the educational campaign to acquaint growers with the value of a complete nutritional program. Although the present knowledge of citrus fertilization has been developed largely within the past 10 years, the application to commercial production methods has been so rapid that today the use of minor elements is an established practice.

Improved fertilization practices have had marked effects on Florida citrus production other than the large increase in total output. Citrus trees that are properly fertilized have a greater resistance to cold damage and a less-pronounced tendency toward alternation of production. By increasing the sugar and vitamin content of the juice, a correction of deficiencies in the essential elements also improves the fruit quality.

The Florida citrus industry presents one of the most varied economic patterns of all major agricultural enterprises. Dur-

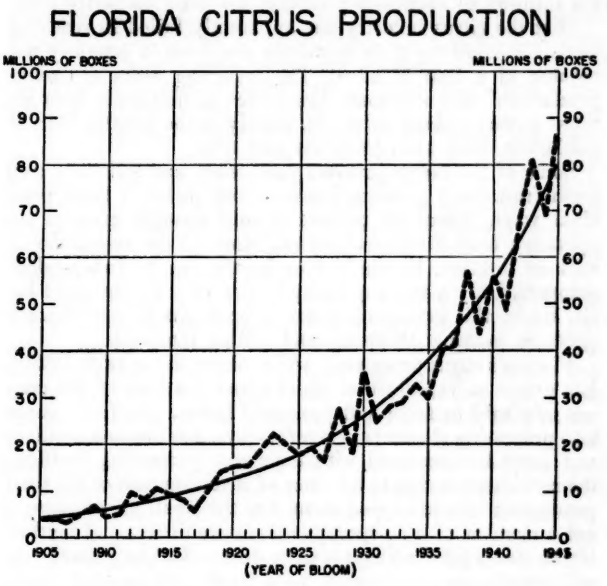
ing the history of commercial citrus production, rapid expansion and technological changes have necessitated far-reaching economic changes. Perhaps the most salient features of the present economic organization, however, are the widespread separation of grove ownership from grove operation, the importance of co-operative organizations, and the integration of the growing and processing functions.

That so large a proportion of groves are operated by persons other than the owners is to a great extent attributable to the speculative aspect of the industry. Because of the great risks and the possibilities of very large returns that have accompanied grove investment, the planting of citrus trees has been promoted on a scale rare in agriculture. Promoters bought, cleared, and planted large acreages and then sold them to investors in small blocks. Since the buyers usually had neither the equipment nor the skill necessary to operate the groves, actual operation was usually conducted by caretaker organizations. These organizations not only perform all grove-care operations but frequently deal with the harvesting and marketing agency. Under this type of organization absentee ownership has assumed an important place in Florida citrus growing.

As production became more and more specialized and mechanized the owner-operators of small groves found it was cheaper to hire an organization to do the work than it was to do it themselves. In recent years, therefore, resident owners of small groves have tended to follow essentially the same course as the nonresident owners. They regard their groves, in other words, as investments and make little attempt at actual operation. Although it is uncertain just how large a grove must be for efficient owner-operation, some of the successful grove operators estimate that at least 100 acres are needed for an economical use of modern grove machinery. Apparently, since the average size of grove in 1945 was about 20 acres, only a limited number of the Florida citrus properties can be operated efficiently under other than caretaker arrangements.

Though the purposes and organization of citrus co-operative associations vary widely, marketing has been their most important function. Co-operative marketing organizations handle about 40 percent of the fruit shipped in fresh form. The larger co-operatives are entering the processing field on an intensive scale. For 16 years beginning in 1914 co-operatives supplied caretaking service only on a small scale, but since 1930 they have expanded it so rapidly that it is now one of the major services rendered. Because grove caretaking for their members is usually done on a credit basis, co-operatives are also important sources of production credit. In addition to the regular services, such special accommodations as the eradication of pests are given by the associations. Although independent marketing agencies handle the largest share of the Florida citrus crop, the co-operatives' major contribution seems to be that of obtaining for the small citrus grower some advantages of large-scale operation.

The tendency toward large-scale grove operations and large-scale marketing has been accompanied by a tendency toward integration of the entire growing, processing, and marketing functions. One organization, for example, will own groves, packing houses, and processing facilities. In marketing the product the organization may deal with retail outlets directly, leaving only the transportation and the retailing to other agencies. Some co-operative associations operate in the same manner except that grove ownership remains with the individual person. The trend toward a combination of more producing functions under one management or ownership has been stimulated by the growing importance of processing. Canning, the largest form of citrus processing, was once regarded as merely a secondary outlet for fruit that could not be profitably sold in fresh form. Now that processing is accepted as the other major outlet many of the larger organizations find it advantageous to own and operate their own processing facilities. In recent years, the development of by-products from processing has further stimulated the consolidation of all production processes under one management.




### Financial Returns

From the grower's standpoint the profitableness of Florida citrus has fluctuated widely over the years. Natural production hazards, such as freezes, tornadoes, and pest infestations, account for some of the variation in income. Fruit prices, however, have really been the most important cause. Production costs per box of fruit have, on the other hand, fluctuated little from year to year with the general tendency toward a lower unit cost. Detailed cost and income records for a group of growers studied by the Florida Agricultural Experiment Station showed that in the 14-year period beginning with the crop season 1931-32 the average annual returns per acre varied from $7.88 below operating costs to $425.72 above. The Florida State Marketing Bureau's estimates of annual net returns for all citrus marketed in the 19-year period beginning in 1927-28 range from 0.5 million dollars to 125.5 million.

At the present time problems of the Florida citrus industry are largely of an economic nature. All physical production problems have not been solved, however, since the citrus grower, like most agricultural producers, faces a constant struggle with weather, insect infestation, and disease. Production problems, which arise constantly, must be solved as they occur if the industry is to prosper. Fruit-fly infestations,

for example, suddenly appeared in 1929 and seriously threatened the entire Florida industry, and it took prompt and efficient action to check the menace. In the thirties the adoption of the complete nutritional program stopped the slow decline in production and raised yields to all-time high levels. There were of course other production problems that were encountered and overcome. The rapidly rising output and the increasing production efficiency demonstrate clearly that the growers, physical scientists, and other persons connected with the industry have done their job well, but progress toward the solution of economic problems has been painfully slow.

That the citrus industry has apparently failed in reaching workable solutions to its economic problems is certainly not because of a lack of effort. The recurring years of "overproduction" and ruinously low prices stimulated a keen interest in them. Many solutions, mainly in the general field of marketing, have been proposed and tried.

Some of the larger growers pack, ship, and sell their own fresh fruit. Most growers, however, sell theirs in three principal ways. About 35 percent is sold through growers co-operative marketing associations. Most of the remainder is sold on the tree, by the box or by the ton, to independent shippers. Only a small quantity is sold on a consignment basis. Under this arrangement the shipper acts as the grower's agent in packing, shipping, and selling the fruit.

Florida's citrus processing, which began in the early 1920's, has grown so rapidly that about equal portions of the crop are now sold in fresh and processed forms. The fruit moves into processing channels in several ways. For the co-operatives and large independents with their own processing facilities the movement is simply a matter of diverting part of the total production into processed form. For the small grower who is not a member of a co-operative there are three usual marketing channels for fruit that is to be processed. The grower may sell directly to a processor, to a fresh-fruit packing house or shipper that diverts fruit not suitable for sale in fresh form into processing, or to an itinerant buyer who in turn sells to a processor. Most sales to processors are on an on-tree basis.

To conform to economic and technological changes the mechanics of marketing have changed markedly over the years. Although certain underlying problems are still unsolved a great deal of progress has been made. Since early in the history of the Florida citrus industry an idea that changes in marketing could help to promote greater economic stability has persisted among growers and shippers.

Co-operative marketing associations were among the first concrete manifestations of this general idea. The Florida legislature passed its first co-operative marketing act in 1909. Under the provisions of that act and succeeding acts numerous citrus-fruit-marketing co-operatives have been organized.

The Florida Citrus Exchange at Tampa, one of the first of the citrus co-operatives, has since its inception in 1909 held an important place in the state's industry. Its members are subexchanges, which in turn comprise local co-operative associations and independent shippers that ship at least 400,000 boxes of fruit a year through the exchange. Primarily the exchange is a sales organization. It handles interstate sales of both fresh and processed fruit for its members, who produce from 25 to 30 percent of the state's total citrus crop. In addition to handling sales, the exchange also provides its members with other services, such as the extension of production credit.

Local citrus-marketing co-operative associations form the most important single group of co-operative marketing agencies serving Florida growers. Their chief service is fruit packing. In recent years, however, their grove-caretaking services, selling, and processing have increased in importance. The average volume of fruit handled by each association has also increased rapidly. With this increase there has been a tendency for local co-operatives to withdraw from the Florida Citrus Exchange and perform their own selling functions.

The co-operatives handling the greater quantities of fruit have usually given packing services at a lower cost, obtained a higher sales price, and returned a larger net profit to the grower than have those handling relatively small volumes of fruit. Apparently this relationship between volume of business and efficiency applies also to the independent marketing agencies. Among both the co-operative and the independent marketing agencies that handle Florida citrus fruit the turnover, or rate of failure, has been high. Both independents and co-operatives seemingly weather the economic storms better when their volume of business is large.

In spite of the marketing efficiencies achieved by both the co-operatives and the independents, the total outlet for the state's citrus fruit needed expanding. To meet this need an act of the legislature created the Florida Citrus Commission in 1935. The commission is composed of 11 members who are appointed by the governor to represent the citrus industry. A tax on each box of citrus fruit moving out of the state finances its work. Its primary functions include intensive advertising, certain regulatory activities, and the promotion of research that will lead to an expansion of outlets. The vigorous approach made by the commission has gone far toward the achievement of its main purposes. That many problems remain to be solved in no way reflects on the commission but serves, rather, to emphasize the complexity of those problems facing the industry.

The efforts to increase total demand and marketing efficiencies have been augmented by measures that were designed to standardize the product and to control quality. Examples of the legislative measures are the grade and size regulations set by the United States Department of Agriculture and the standards of maturity and other conditions imposed by the citrus commission. Co-operative marketing organizations also have fostered standardization and quality control among their members for many years. Most important of the measures now in effect, however, are those imposed by the Growers Administrative Committee, which operates under the provisions of the marketing agreement authorized by the Federal Marketing Act.

The marketing agreement is a voluntary agreement on the part of the growers. It is subject to the approval of the Secretary of Agriculture upon petition by the growers. The marketing agreement now in effect was adopted in 1939. It relates only to the regulation of size and grade of the citrus fruit to be shipped in designated periods. Eight citrus growers appointed by the Secretary comprise the Growers Administrative Committee. The Shippers Advisory Committee, composed of eight citrus-fruit shippers likewise appointed by the Secretary, advises the administrative committee on problems relating to shipment regulations. The primary purpose of these regulations is to control the grades and sizes of fresh fruit in a manner that will promote maximum consumer acceptance, maintain the quality and reputation of Florida

fresh citrus fruit in terminal markets, and generally maximize the returns to growers so far as regulations of grade and size permit. Changes in the regulations for a given period can be recommended to the Secretary only after a referendum in which at least two thirds of the growers approve the proposed change. Regulations proposed by the administrative committee must be approved by the Secretary before they can be made effective.

During the first part of the current season the Florida citrus industry was in economic distress despite what are generally regarded as favorable supply-and-demand conditions, such as efficient marketing practices, large expenditures for advertising, regulations on the grade and size of fruit shipped in given periods, and a high level of nonagricultural income. Again the problem was to sell the record citrus crop for prices that would enable the growers and other groups in the industry to make a profit.

To some extent the difficulties in the first half of the current season may have arisen from an unhappy combination of circumstances. The Florida industry had had no experience in handling a 100-million-box citrus crop, which was in prospect at the beginning of the season. During the war years a large portion of the increased production had been processed, relieving somewhat the pressure on the fresh-fruit market. The large Government purchases and an otherwise abnormal demand resulting from a shortage of competing canned fruits and juices had supported prices of processed fruit. Faced as it was with a heavy carryover of citrus juice and the prospect of competing in a primarily civilian market of products that were increasing in number and volume, the processing phase of the industry seemed to have little ability to provide a profitable outlet. On the other hand, since relatively large price decreases are necessary to increase fresh-fruit consumption appreciably, the amount of fruit that could be sold profitably in fresh form was limited. Maturity standards for early oranges are such that some Florida varieties, particularly Hamlins, can pass the test and yet fail to interest consumers. Growers, because of the temptingly high prices early in the season and a large crop, shipped relatively great quantities of early oranges before they had attained their maximum quality. The natural dissatisfaction on the part of both consumer and fruit dealers with the fruit further intensified the problem of selling the even larger volume of midseason oranges.

Although the destruction of an estimated 11.5 million boxes of the Florida citrus crop by the heavy freeze in February resulted in price rises to profitable levels, persons in the citrus industry realize that this 10-percent loss of their current crop has failed to alter their basic problems. Since the Bureau of Agricultural Economics has estimated that total Florida citrus production will be about 124 million boxes by 1969, in the near future the industry must again wrestle with the problem of selling Florida citrus crops at profitable prices.

This prospect has renewed interest in various marketing controls. Most seriously considered are those controls designed to limit the supply marketed. Methods limiting the supplies may entail either a regulation of shipments to market for short periods or a reduction of the total yearly supply. Each of them has been advocated by persons interested in Florida citrus. Both methods could, of course, be used at the same time.

From an economic standpoint there are few objections to the regulation of shipments during short periods as a means of avoiding short-time surpluses and shortages. Lacking coordination as they do, the three or four hundred selling organizations handling fresh citrus fruit in Florida frequently put more fruit on a market in a given period than it can absorb at stable prices. These excessive supplies then lead to price cutting in a desperate effort to dispose of all the fruit in too short a period. Fruit dealers naturally hesitate to buy on a rapidly falling market, for the price on a carload of fruit may fall markedly before they can sell it to the retailers. The resulting lack of interest on the part of dealers tends to cause further price declines. Since some time must elapse before the lower prices can be passed on to consumers, there is no immediate increase in consumption that would help absorb short-time surpluses.

The immediate effects of oversupply in a particular market usually are lower returns to growers, little or no benefits to consumers, reduced movement into trade channels, and reluctant handling by dealers. In other citrus-producing areas where more orderly marketing has been promoted by regulating weekly shipments among markets, both growers and consumers have seemed to benefit.

Controls that limit the total supply marketed during the entire season, however, undoubtedly provide the most powerful device. They are effective in situations where a well-regulated flow of shipments during the season has failed, because of a large total supply, to keep prices at levels profitable to the growers. Citrus growing in Florida, like that in most other areas, has had a widely fluctuating annual production. Unlike manufacturers who can regulate their production in accordance with expected demand, citrus growers can do little to change their production in anticipation of changes in demand. Frequently, therefore, they must dispose of an abnormally large crop in a period when consumer buying power is relatively low. That a relatively large reduction in the price of fresh citrus fruit does not bring a

TABLE OF PRODUCTION, NET RETURNS, AND PRICES OF FLORIDA CITRUS FRUIT AND INDEX OF NONAGRICULTURAL INCOME

| Crop Year | Total Production Utilized (Millions of Boxes) | Estimated Net Returns to Growers (Before deductions for taxes, depreciation, and interest on investment) | | Equivalent Packing-House Door Price Per Box for All Methods of Sale (Dollars) | Index of Non-agricultural Income (1935-39 100) |
|---|---|---|---|---|---|
| | | Total (Millions of Dollars) | Per Box (Dollars) | | |
| 1927-28 | 16.0 | 27.0 | 1.68 | 2.63 | 116.3 |
| 1928-29 | 28.0 | 5.7 | .20 | .97 | 120.6 |
| 1929-30 | 17.2 | 18.3 | 1.06 | 1.86 | 117.8 |
| 1930-31 | 35.0 | 10.0 | .29 | .92 | 103.2 |
| 1931-32 | 24.4 | 10.9 | .45 | 1.14 | 82.8 |
| 1932-33 | 28.4 | 0.6 | .02 | .64 | 69.7 |
| 1933-34 | 29.3 | 10.0 | .34 | .92 | 78.4 |
| 1934-35 | 32.8 | 8.9 | .27 | .74 | 84.7 |
| 1935-36 | 29.5 | 20.2 | .69 | 1.14 | 96.3 |
| 1936-37 | 40.6 | 24.6 | .61 | 1.05 | 106.3 |
| 1937-38 | 40.9 | 9.0 | .22 | .77 | 100.6 |
| 1938-39 | 56.4 | 3.4 | .07 | .53 | 103.2 |
| 1939-40 | 43.0 | 5.0 | .12 | .65 | 110.8 |
| 1940-41 | 55.9 | 8.8 | . 6 | .72 | 126.9 |
| 1941-42 | 48.4 | 27.6 | .57 | 1.14 | 154.7 |
| 1942-43 | 68.7 | 76.3 | 1.11 | 1.62 | 195.2 |
| 1943-44 | 80.8 | 94.0 | 1.16 | 1.89 | 224.8 |
| 1944-45 | 69.0 | 111.9 | 1.62 | 2.33 | 237.1 |
| 1945-46 | 86.0 | 125.6 | 1.46 | 2.25 | 231.0 |

proportionate increase in the quantity sold makes the problem very difficult.

A regulation of the total volume marketed has, however, some far-reaching implications. A partial diversion of the crop to noncompetitive uses or the actual destruction of part of it is required. Apparently, however, the growers and the general public have an aversion to such measures. If total volume is limited to the extent that prices are kept relatively high, the long-run consequence may be an undesirably expanded production. Marketing controls that raise the retail price of the product above prices of its substitute products may result in a loss of markets. If the prices of Florida citrus fruit were to be maintained much higher than the prices of citrus products grown in other areas, for example, the Florida industry might lose a large share of its market outlet. All the probable effects of marketing controls that limit total shipments are not clear, but apparently this type of control should be an emergency measure rather than a permanent price-raising procedure. Such a control method can be very beneficial to growers if it is applied only in those seasons when crop sizes are abnormally large and demand conditions are extremely poor and if the quantity withheld from the market is no larger than the amount of the surplus.

Application of any of the commonly used marketing-control methods to the Florida citrus industry must involve overcoming some formidable obstacles. Whether such marketing controls should be applied to Florida problems depends on the practicability of their application as much as it does on the inherent qualities of the measures.

Seemingly voluntary programs of marketing controls are ineffective except for short periods. Such programs that include a majority of the growers may work well for a time, but the refusal of the minority group to participate breaks the whole program. Naturally the nonparticipants profit most from voluntary supply controls, since they receive the higher price brought about by reduced supplies but market their full volume of fruit. This weakness can be remedied by a program that legally compels all growers to abide by it. The Federal marketing agreements exemplify this type of program. Since limitations of market supply usually involve the public interest, the Government in the case of these agreements retains certain powers to insure that growers will use the controls in a manner consistent with the welfare of consumers. Therefore considerable Government intervention becomes necessary. The objection on the part of some segments of the industry to Government intervention is an important obstacle to the adoption of controlled marketing in Florida.

The fairly intense individualism of the Florida growers and the extreme variations from year to year in profitableness are closely related factors that also affect the feasibility of marketing controls. Florida citrus growing has, at times, been extremely profitable. During such periods the growers rapidly lose interest in controls. During the war period, for instance, demand conditions enabled the growers to sell large quantities of fruit regardless of quality. Their immediate reaction was to press for a relaxation of the grade and size regulations. The possibilities of extremely high returns have also tended to foster independent operation rather than industry-wide co-operation. Over the long run co-operatives may increase total grower returns, but the independent operator is in a position to gain most during periods of favorable prices.

In the past, effective marketing-control programs have operated best when there was a dominant co-operative marketing association of growers. The necessity of working together and the experience gained in co-operative marketing seem to facilitate the operation of marketing-control programs. Although co-operative marketing holds an important place in the Florida citrus industry the scene is still dominated by the independent grower, shipper, and processor.

Administrative difficulties crop up in any marketing-control program. The nature of the Florida citrus industry would tend to intensify them and to increase them. A special problem is presented by the large number of selling agencies which handle small quantities of fruit. Sometimes marketing quotas of the individual selling agencies, for example, are set at a percentage of the volume of fruit handled in the past. Such a system might easily drive some of the agencies that ordinarily handle only a small volume of fruit out of business because, under it, their quotas might be too small for economical operation. Furthermore, in Florida many varieties of citrus are grown under a wide range of conditions. The resulting lack of standardization of the product would add to administrative problems.

An effective marketing control would have to include processed products as well as fresh fruit. Despite the efficiency of fresh-fruit-marketing controls, the effects that the large volume of processed citrus fruits would have on fresh-fruit prices could offset any benefits from the regulation of only fresh-fruit supplies. For one thing, of course, it would be necessary to determine what proportions of the total crop should be marketed as fresh fruit and as processed fruit in order to maximize returns to growers and processors. There are some conflicts of interest between growers and processors, but there are also common interests that have been inadequately explored. There is no doubt that a great deal more co-operation between the two groups than has been exhibited in the past would be necessary.

For overcoming the problems of the Florida citrus industry there are, as with most economic problems, several alternative methods. Some of the most promising are measures designed to expand the outlets and increase the use of citrus. Though the export market presents some possibilities, it is likely that at best only a very small proportion of the total crop can be exported. Apparently an increased emphasis on processing offers the greatest opportunities for more domestic consumption. Since there are some indications that per capita consumption of fresh citrus fruit is nearing its limits, the processing outlets must be expanded still further if the prospective production is to be marketed at satisfactory prices.

In the 1945-46 season about 70 percent of the grapefruit crop and about 40 percent of the orange crop were processed. Canned grapefruit segments and single-strength juices comprised the bulk of the processed fruit. During the war period concentrated-juice production expanded rapidly and now constitutes one of the promising new outlets for citrus. The newest processed citrus products are the frozen concentrates.

By making lower retail prices possible the development of by-products from processing wastes can expand the consumption of citrus. None of the by-products developed so far is a major profit item, but they all have been helpful in reducing processing costs on the major-profit items. Chief of those produced in Florida are stock feed, citrus molasses, peel oil, pectin, and alcohol.

Pectin and citrus-pulp cattle feed appear to be the most promising. The expansion of the Florida cattle industry coupled with the deficiency of carbohydrate feeds in the Southeast will create an expanding market for citrus cattle feeds. Dry-pulp feeds, which compete favorably with beet pulp, have given satisfactory results in feeding trials and in actual farm practice. Before the war cattle feed from citrus pulp and peel was produced for about $16 a ton and sold for around $22. Pectin, which is also made from the peel, is used largely in the preparation of jams and jellies. Although only small quantities of it are produced in Florida at present, greatly expanded uses for it are indicated in recent technological developments.

In addition to increasing consumption by lowering the price of established products, processing developments, particularly the concentration of citrus juice by freezing, may open entirely new outlets. From the standpoint of consumer acceptance one disadvantage of processed citrus products has been the inability to produce a preserved juice that has the taste, appearance, and nutritional qualities of freshly extracted juice. Heat, which is used in most citrus processing, causes citrus juices to lose more flavor and nutritive value than it does most other fruit juices. The flavors of fresh citrus fruit come largely from organic bodies that are partially lost when the juice is heated. Since the cold concentrate process involves no use of heat, it avoids undesirable changes in flavor and nutritive qualities.

Although the method is not new its application to Florida citrus processing is of very recent origin. This application is based primarily on the research of A. L. Stahl and his associates of the Florida Agricultural Experiment Station at Gainesville. In a pilot plant financed by the Florida Citrus Commission the process was tested extensively and is already being used in some commercial plants, with others planning to install the necessary equipment soon.

It has numerous advantages that may have significant effects on the future of citrus processing and distribution. In addition to a flavor, a color, and nutritional values superior to those of juice concentrated by other means, there are advantages such as a reduction in bulk, the absence of refuse, very small losses in manufacturing, and an ease of restoration. The finished product is concentrated at a three-to-one ratio, which means that it is restored to single-strength juice by the addition of three parts of water to one part of the concentrate. At 0° F. the concentrate has the consistency of ice cream.

Because it is adapted to all types and varieties of citrus fruit, the method may solve the marketing problem presented by certain varieties of Florida oranges in the past. Apparently early Florida oranges, both in fresh and the usual processed forms, owe their relatively poor consumer acceptance largely to their low solids content. By concentration the solids content of their juice is raised to the most desirable point, thus enhancing the acceptability of the product.

The frozen concentrate promises to be an important factor in the soft-drink outlet that the Florida industry is trying to develop. It now seems probable that, with the proper promotion and the processing of a high-quality product, Florida citrus juice can be made to compete favorably with other soft drinks. Frozen concentrate is admirably adapted for this purpose. At 15° F. the three-to-one ratio concentrate is a liquid. A measured amount of it can be squirted into a glass of appropriate size and tap water added to produce a drink that has the flavor and other qualities of fresh juice.

One of the difficulties in processing high-quality juice by any method is keeping the amount of peel oil at a minimum. Even small quantities of the oil may impart an objectionable taste to citrus juice, particularly if the juice is stored for a considerable period of time. When processing methods involving heat are used a large proportion of the peel oil is removed by distillation. If a high-quality product is to be obtained with processing methods that involve no use of heat, it is imperative that no peel oil get into the juice at the time of extraction. Improvements in juice-extraction machinery are needed, therefore, if the cold-concentrate method is to achieve maximum success.

### Prospects

Primarily the future of the Florida citrus industry depends on its selling the expected large volume of citrus fruit at reasonably profitable prices. This problem has been encountered frequently in the past, with each crisis being followed by a period of prosperity and expansion. The nature of the problem, however, has changed significantly. From a relatively simple agricultural enterprise that produced a small number of products the Florida industry has grown into a highly integrated business that produces a wide variety of products. This change has greatly complicated what was once a fairly simple economic problem. It is clear, therefore, that the simple panaceas which are advocated so frequently would be ineffective. The establishment of marketing controls and the expansion of markets are the general types of activities most likely to accomplish the desired objectives. In an evaluation of what may be accomplished by either method it is important that both the method's limitations and its possibilities be carefully considered.

Marketing agreements may improve net returns by minimizing the unfavorable effects of disorderly marketing during a particular season or by preventing the depressing effect of unusually large annual surpluses on prices. Such agreements are inapplicable, however, to the disposal of a total supply that is too large to be sold over a long period at profitable prices. In other words, marketing agreements cannot be used to control production.

By increasing the total quantity that can be profitably sold, market expansion also may improve net returns but will not prevent the unfavorable effect of disorderly marketing or unusually large annual surpluses. Because of the difficulties of applying marketing controls to the Florida industry it appears unlikely that this method can accomplish much in the near future.

Though the marketing agreement now in effect with respect to grade and size regulations provides a valuable tool, it cannot solve the over-all problem. A series of unprofitable seasons might result in the adoption of a comprehensive marketing-control scheme in spite of the difficulties, but at present the best approach seems to be in the general field of market expansion. Progress in processing, such as the conversion of wastes into by-products and the development of new products and retail outlets, holds greater promise for the future of the Florida citrus industry. The successful development of new outlets depends primarily on industry-wide co-operation. If all segments will recognize the principle that their common interests are far greater than their conflicts of interest and follow that policy the industry can look forward to a prosperous future.

BROWN R. RAWLINGS

# *The District Business Situation*

## Trade

Greater buying during the last two weeks of March raised the final seasonally adjusted index of daily average sales at Sixth District department stores above the level indicated during the first two weeks to 346 percent of the 1935-39 average. The index was 338 for February and 328 for March 1946. Both the increase in sales at the weekly reporting stores of 21 percent for the week ended April 5 over those for the corresponding week in 1946 and the 4-percent decrease for the week ended April 12 were caused largely by the earlier date of Easter this year.

Sales at the reporting Sixth District furniture stores in March were 9 percent above those in March 1946, and sales at the jewelry stores were one percent below their March 1946 level. Household-appliance-store sales rose 7 percent above the February figure.

Evidence of the greater importance of credit in retail trade since the war is provided by the 1946 Retail Credit Survey recently completed by this bank with the co-operation of more than 500 Sixth District retailers. At the 402 credit-granting stores which reported breakdowns of their sales by type, sales during 1946 in nine different lines of retail business totaled 379 million dollars, a sum exceeding the 1945 sales by 29 percent. Although the increase in credit sales accounted for two thirds of the total increase, reported cash sales for the stores as a group were higher in 1946 than they were in 1945. As a group the stores made 51 percent of their sales for cash in 1946, compared with 56 percent in 1945. Approximately 12 percent were made on the installment plan.

**SALES BY TYPE OF TRANSACTION**
**SIXTH DISTRICT REPORTING STORES**
**1946 RETAIL CREDIT SURVEY**

| Type of Retailer | No. Reporting Stores | Percent Change in Sales 1945 - 1946 | | | | Percent of Total Sales | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | Cash | Open Credit | Installment | Cash | | Open Credit | | Installment | |
| | | | | | | 1945 | 1946 | 1945 | 1946 | 1945 | 1946 |
| Department | 94 | + 24 | + 12 | + 42 | + 45 | 62 | 57 | 34 | 39 | 4 | 4 |
| Furniture | 125 | + 43 | + 57 | + 67 | + 39 | 16 | 18 | 5 | 5 | 79 | 77 |
| Auto Tire & Accessory | 59 | + 32 | + 13 | + 43 | + 99 | 46 | 39 | 49 | 54 | 5 | 7 |
| Automobile | 31 | +150 | +205 | + 70 | +215 | 51 | 62 | 41 | 28 | 8 | 10 |
| Jewelry | 28 | + 17 | + 8 | + 43 | + 12 | 56 | 51 | 24 | 29 | 20 | 19 |
| Hardware | 25 | + 39 | + 33 | + 43 | + 70 | 45 | 43 | 54 | 55 | 1 | 2 |
| Men's Clothing | 25 | + 37 | + 28 | + 54 | + 50 | 64 | 60 | 32 | 36 | 4 | 4 |
| Women's Apparel | 21 | + 8 | — 4 | + 19 | — 15 | 51 | 45 | 49 | 54 | 0 | .. |
| Household Appliance | 14 | + 53 | + 49 | + 57 | + 53 | 42 | 41 | 38 | 39 | 20 | 20 |
| All Types | 402 | + 29 | + 18 | + 43 | + 43 | 56 | 51 | 34 | 37 | 11 | 12 |

Automobile dealers, whose reported sales in 1946 were 150 percent higher than they were in 1945, made the greatest gain of any type of reporting retailer, followed by household-appliance dealers with an increase of 53 percent. During the war years both these types of retailers, particularly the automobile dealers, had their sales severely limited by shortages. The increase in the sales at household-appliance stores raised their total volume above that of 1941, after it had been below for each of the war years. But the large increase in the sales of automobile dealers raised their total volume to only three-fourths their 1941 volume. More moderate increases in sales for the year were reported by those retailers whose sales had, to the contrary, greatly expanded during the war. At women's apparel stores, for example, where sales on a dollar-volume basis were still twice those for 1941, sales during 1946 exceeded those for 1945 by only 8 percent. Details of these changes are shown in the accompanying table.

All types of businesses reported inventories larger at the end of 1946 than they were at the end of 1945. For the nine businesses, combined inventories were up 73 percent. Household-appliance stores led with an increase of 135 percent, and jewelry stores came last with one of 28 percent. The expansion in inventories for other types of retailers amounted to 89 percent at department stores, 75 percent at furniture stores, 33 percent at hardware stores, 113 percent at automobile dealers, 42 percent at auto tire and accessory stores, and 40 percent at women's apparel stores.

To carry these inventories and the expanded accounts receivable, which were 78 percent greater at the end of 1946 than they were at the end of 1945, the stores as a group drew on their cash and bank deposits and on their holdings of Government securities. These latter two types of current assets declined approximately 28 percent during 1946. The net change in total current assets was an increase of 18 percent.

Current liabilities, however, expanded at a rate almost twice as great, lowering the ratio of current assets to current liabilities from 3.5 for 1945 to 3.1 for 1946. The expansion of current liabilities came chiefly from a 252-percent increase in accounts payable. The total of notes payable to banks reported was 25 percent less at the end of 1946 than it was at the end of the preceding year, although some types of businesses had increased their borrowings substantially. In each line of business a greater proportion of the firms reported borrowings in 1946 than reported them in 1945, but no more than one third of the retailers in any line reported bank borrowings. Credit from wholesalers and manufacturers amounted to 3.5 times that obtained from banks. Indirectly, however, the expansion in trade credit, may have caused an expansion of borrowing by wholesalers. Loans to them amounted to 23 percent of the total business loans at all Sixth District member banks on November 20. Some of the retailers, especially automobile dealers and household-appliance stores, financed part of their operations by selling installment paper. About two thirds of the automobile dealers reporting these items sold such paper, which totaled 38 percent of their installment sales. C. T. T.

## Employment and Industry

Contrary to indications for the first quarter of 1947, District manufacturing employment remained during February at the level prevailing since November. Reports from most of the major cities of Alabama, Georgia, and Tennessee indicate that the number of workers employed in manufacturing rose slightly during March, when activity increased in food-product, iron and steel, ship-repair, and electrical-machinery plants. Employment decreased, however, in fertilizer, furniture, and apparel manufacturing. According to preliminary figures, the rise in unemployment since last November has apparently slowed down, at least it did so in most of the larger District cities during March. Increases in manufacturing and construction have more than offset the seasonal decline in trade employment. In the rural communities two

seasonal factors, the return of labor to agricultural pursuits as well as the pickup in sawmilling, have contributed to the reduction of unemployment.

Manufacturing activity also continued to show increases. March petroleum production adjusted for seasonal variation was four points above the February figure. The February electric-power-production index was 313, compared with 309 in January. Lumber production in February adjusted for seasonal influences was 8 percent higher than that in January.

Indicative of the present level of building-material prices and labor costs in the District, the American Appraisal Company's index of construction costs for Atlanta reached 434 in March. This figure is 38 percent higher than that for the same period of last year and is two and a third times the 1939 average.

Because of the rise in costs during the war and postwar periods, the level of activity as represented by the dollar volume of construction awarded to contractors heavily overstates the volume of building being done. For this reason the $801,951,000 worth of construction contracts reported by the F. W. Dodge Corporation as being awarded in the Sixth District during 1946 probably accounted for an amount of building equal to that represented by the $487,835,000 worth of contracts reported in 1940, or for an even smaller amount. During January and February Sixth District contracts awarded were 56 percent higher in dollars than they were during the same months of 1946, but prices had risen so much that these contracts apparently will account for only about 13 percent more building than did the contracts let in the same period last year.

Some indication of future price trends in at least one major construction material may be found in the reports that lumber prices declined in a few areas of the South during the first quarter of 1947. During March some wholesale lumber yards were paying from $2 to $10 less per thousand board feet than they paid during the previous month, the principal declines coming in the prices of inferior lumber. Because of the low volume of building during these months and the fairly steady increase in lumber inventories since last summer some decline, however, probably could have been expected. Since most District mills report that both the scarcities of equipment and of labor are moderating, lumber production should be favorable during the summer. T. R. A.

### Agriculture

According to recent reports, District farmers intend to plant about the same total crop acreage in 1947 that they planted last year, though the intentions for individual crops vary, of course, from this general pattern. The prospective corn crop of 12.5 million acres is about the same as that planted last year, but when broken down for each of the Six States it is far below their average plantings for the 10-year period 1936-45. A slightly larger soybean acreage and an oat crop of about 2.4 million acres, 9.5 percent greater than that of last year, are forecast. Both the oat and the soybean acreages in prospect for 1947 are considerably above the average acreages for the preceding decade. Apparently the shift toward better-balanced cropping systems will continue during the year.

A smaller Irish-potato acreage is expected in all District states, decreases ranging from 4 percent in Georgia to 24

## Sixth District Statistics

**CONDITION OF 20 MEMBER BANKS IN SELECTED CITIES**
**(In Thousands of Dollars)**

| Item | April 23 1947 | March 19 1947 | April 24 1946 | Percent Change April 23, 1947, from March 19 1947 | Percent Change April 23, 1947, from April 24 1946 |
|---|---|---|---|---|---|
| Loans and investments—Total | 1,909,497 | 1,944,349 | 2,251,677 | — 2 | — 15 |
| Loans—total | 574,732 | 584,727 | 496,597 | — 2 | + 16 |
| Commercial, industrial, and agricultural loans | 333,937 | 341,267 | 237,282 | — 2 | + 41 |
| Loans to brokers and dealers in securities | 6,822 | 6,626 | 11,034 | + 3 | — 38 |
| Other loans for purchasing and carrying securities | 72,034 | 74,630 | 124,147 | — 3 | — 42 |
| Real estate loans | 45,758 | 45,472 | 27,034 | + 1 | + 69 |
| Loans to banks | 4,168 | 4,147 | 1,408 | + 0 | +196 |
| Other loans | 112,013 | 112,585 | 95,692 | — 1 | + 17 |
| Investments—total | 1,334,765 | 1,359,622 | 1,755,080 | — 2 | — 24 |
| U. S. direct obligations | 380,059 | 386,014 | 767,248 | — 2 | — 50 |
| Obligations guaranteed by U. S. | 796,645 | 796,212 | 834,946 | + 0 | — 5 |
| Other securities | 158,061 | 177,396 | 152,886 | — 11 | + 3 |
| Reserve with F. R. Bank | 361,759 | 366,919 | 363,785 | — 1 | — 1 |
| Cash in vault | 32,107 | 31,390 | 30,427 | + 2 | + 6 |
| Balances with domestic banks | 140,955 | 167,796 | 146,333 | — 16 | — 4 |
| Demand deposits adjusted | 1,396,117 | 1,392,556 | 1,331,766 | + 0 | + 5 |
| Time deposits | 460,580 | 459,176 | 436,018 | + 0 | + 6 |
| U. S. Gov't deposits | 40,775 | 47,624 | 382,330 | — 14 | — 89 |
| Deposits of domestic banks | 417,929 | 480,477 | 512,418 | — 13 | — 18 |
| Borrowings | 2,000 | ..... | 12,200 | ..... | — 84 |

**DEBITS TO INDIVIDUAL BANK ACCOUNTS**
**(In Thousands of Dollars)**

| Place | No. of Banks Reporting | March 1947 | Feb. 1947 | March 1946 | Percent Change March 1947 from Feb. 1947 | Percent Change March 1947 from March 1946 |
|---|---|---|---|---|---|---|
| ALABAMA | | | | | | |
| Anniston | 3 | 21,350 | 18,081 | 18,103 | + 18 | + 18 |
| Birmingham | 6 | 298,214 | 248,554 | 227,866 | + 20 | + 31 |
| Dothan | 2 | 10,824 | 9,323 | 9,569 | + 16 | + 13 |
| Gadsden | 3 | 18,271 | 14,595 | 12,927 | + 25 | + 41 |
| Mobile | 4 | 120,186 | 101,683 | 98,985 | + 18 | + 21 |
| Montgomery | 3 | 67,362 | 63,081 | 56,596 | + 7 | + 19 |
| FLORIDA | | | | | | |
| Jacksonville | 3 | 247,365 | 223,591 | 212,463 | + 11 | + 16 |
| Miami | 8 | 239,007 | 209,808 | 231,944 | + 14 | + 3 |
| Greater Miami* | 13 | 343,252 | 306,369 | 336,340 | + 12 | + 2 |
| Orlando | 2 | 49,807 | 42,223 | 46,714 | + 18 | + 7 |
| Pensacola | 3 | 30,215 | 30,071 | 29,152 | + 0 | + 4 |
| St. Petersburg | 3 | 55,846 | 46,214 | 47,577 | + 21 | + 17 |
| Tampa | 3 | 108,904 | 96,516 | 98,610 | + 13 | + 10 |
| GEORGIA | | | | | | |
| Albany | 2 | 14,674 | 12,662 | 12,772 | + 16 | + 15 |
| Atlanta | 4 | 719,437 | 630,741 | 613,913 | + 14 | + 17 |
| Augusta | 3 | 51,964 | 43,365 | 43,747 | + 20 | + 19 |
| Brunswick | 2 | 8,873 | 7,580 | 8,306 | + 17 | + 7 |
| Columbus | 4 | 57,736 | 49,863 | 42,202 | + 16 | + 37 |
| Elberton | 2 | 3,634 | 3,172 | 3,093 | + 15 | + 17 |
| Gainesville* | 3 | 12,040 | 10,320 | 10,865 | + 17 | + 11 |
| Griffin* | 2 | 10,108 | 8,808 | 8,067 | + 15 | + 25 |
| Macon | 3 | 57,418 | 49,351 | 44,193 | + 16 | + 30 |
| Newnan | 2 | 7,029 | 6,024 | 9,186 | + 17 | — 23 |
| Rome* | 3 | 19,942 | 17,774 | 17,054 | + 12 | + 17 |
| Savannah | 4 | 78,946 | 72,256 | 80,023 | + 9 | — 1 |
| Valdosta | 2 | 11,460 | 10,027 | 8,803 | + 14 | + 30 |
| LOUISIANA | | | | | | |
| Baton Rouge | 3 | 74,394 | 66,942 | 55,485 | + 11 | + 34 |
| Lake Charles | 3 | 25,378 | 23,524 | 21,086 | + 8 | + 20 |
| New Orleans | 7 | 608,269 | 503,645 | 503,632 | + 21 | + 21 |
| MISSISSIPPI | | | | | | |
| Hattiesburg | 2 | 16,776 | 15,575 | 15,052 | + 8 | + 11 |
| Jackson | 4 | 123,617 | 105,686 | 88,019 | + 17 | + 40 |
| Meridian | 3 | 26,978 | 24,743 | 24,717 | + 9 | + 9 |
| Vicksburg | 2 | 22,577 | 20,498 | 25,168 | + 10 | — 10 |
| TENNESSEE | | | | | | |
| Chattanooga | 4 | 131,099 | 108,525 | 104,404 | + 21 | + 26 |
| Knoxville | 4 | 105,476 | 102,013 | 104,184 | + 3 | + 1 |
| Nashville | 6 | 262,845 | 221,207 | 209,879 | + 19 | + 25 |
| SIXTH DISTRICT 32 Cities | 109 | 3,675,931 | 3,181,139 | 3,108,370 | + 16 | + 18 |
| UNITED STATES 334 Cities | | 93,319,000 | 81,569,000 | 87,579,000 | + 14 | + 7 |

* Not included in Sixth District total

## Sixth District Statistics

**RETAIL FURNITURE STORE OPERATIONS**

| Item | Number of Stores Reporting | Percent Change March 1947 from | |
|---|---|---|---|
| | | February 1947 | March 1946 |
| Total sales | 93 | + 18 | + 9 |
| Cash sales | 85 | + 11 | — 21 |
| Installment and other credit sales | 85 | + 20 | + 17 |
| Accounts receivable, end of month | 92 | + 1 | + 36 |
| Collections during month | 92 | + 6 | + 25 |
| Inventories, end of month | 72 | — 3 | + 60 |

**INSTALLMENT CASH LOANS**

| Lender | Number Reporting | Volume | | Outstandings | |
|---|---|---|---|---|---|
| | | Percent Change March 1947 from | | Percent Change March 1947 from | |
| | | February 1947 | March 1946 | February 1947 | March 1946 |
| Federal credit unions | 43 | + 31 | + 51 | + 4 | + 56 |
| State credit unions | 26 | — 8 | + 32 | + 2 | + 54 |
| Industrial banking companies | 11 | + 9 | + 7 | + 1 | + 49 |
| Industrial loan companies | 23 | + 18 | + 37 | — 1 | + 30 |
| Small loan companies | 54 | + 12 | — 4 | — 1 | + 17 |
| Commercial banks | 34 | + 22 | + 75 | + 5 | +105 |

**WHOLESALE SALES AND INVENTORIES***

| Items | SALES | | | INVENTORIES | | |
|---|---|---|---|---|---|---|
| | No. of Firms Reporting | Percent Change Mar. 1947 from | | No. of Firms Reporting | Percent Change Mar. 31, 1947, from | |
| | | Feb. 1947 | Mar. 1946 | | Feb. 28 1947 | Mar. 31 1946 |
| Automotive supplies | 7 | + 4 | — 3 | 4 | — 0 | + 41 |
| Clothing and shoes | 6 | — 0 | — 4 | .. | ..... | ..... |
| Drugs and sundries | 9 | + 13 | + 9 | 3 | + 3 | + 6 |
| Dry goods | 7 | + 1 | + 5 | 3 | + 6 | + 75 |
| Electrical goods | 4 | + 30 | + 44 | .. | ..... | ..... |
| Farm supplies | 3 | + 21 | + 42 | .. | ..... | ..... |
| Confectionery | 6 | + 7 | + 13 | .. | ..... | ..... |
| Groceries | | | | | | |
| Full lines | 32 | + 4 | + 11 | 16 | + 1 | + 63 |
| Specialty lines | 9 | + 7 | + 13 | 6 | — 10 | + 35 |
| Beer | 3 | + 0 | +200 | .. | ..... | ..... |
| General hardware | 9 | + 14 | + 50 | 3 | + 5 | + 98 |
| Industrial supplies | 4 | — 11 | + 38 | .. | ..... | ..... |
| Lumber and building materials | 3 | — 18 | + 67 | .. | ..... | ..... |
| Machinery, equip., and supplies | 4 | + 1 | + 20 | .. | ..... | ..... |
| Tobacco products | 5 | — 2 | — 4 | .. | ..... | ..... |
| Miscellaneous | 14 | + 9 | + 43 | 20 | + 9 | + 87 |
| Total | 125 | + 6 | + 21 | 55 | + 4 | + 65 |

* Based on U. S. Department of Commerce figures

**DEPARTMENT STORE SALES AND STOCKS**

| Place | SALES | | | INVENTORIES | | |
|---|---|---|---|---|---|---|
| | No. of Stores Reporting | Percent Change Mar. 1947 from | | No. of Stores Reporting | Percent Change Mar. 31, 1947, from | |
| | | Feb. 1947 | Mar. 1946 | | Feb. 28 1947 | Mar. 31 1946 |
| ALABAMA | | | | | | |
| Birmingham | 5 | + 29 | + 13 | 4 | + 3 | + 53 |
| Mobile | 5 | + 33 | + 15 | .. | ..... | ..... |
| Montgomery | 3 | + 24 | + 15 | 3 | — 1 | + 70 |
| FLORIDA | | | | | | |
| Jacksonville | 4 | + 27 | + 4 | 3 | — 1 | + 48 |
| Miami | 4 | + 11 | + 17 | 3 | — 6 | + 59 |
| Orlando | 3 | + 18 | + 8 | .. | ..... | ..... |
| Tampa | 5 | + 24 | + 14 | 3 | + 6 | + 55 |
| GEORGIA | | | | | | |
| Atlanta | 6 | + 26 | + 5 | 5 | + 2 | + 38 |
| Augusta | 4 | + 43 | + 1 | 3 | + 3 | + 16 |
| Columbus | 3 | + 37 | + 15 | .. | ..... | ..... |
| Macon | 4 | + 39 | + 12 | 4 | + 3 | + 56 |
| Savannah | 4 | + 53 | ..... | ..... | ..... | ..... |
| LOUISIANA | | | | | | |
| Baton Rouge | 4 | + 22 | + 7 | 4 | + 6 | + 84 |
| New Orleans | 5 | + 29 | + 19 | 4 | + 5 | +120 |
| MISSISSIPPI | | | | | | |
| Jackson | 4 | + 20 | + 6 | 4 | + 10 | + 68 |
| TENNESSEE | | | | | | |
| Bristol | 3 | + 38 | + 4 | 3 | + 4 | +135 |
| Chattanooga | 4 | + 33 | + 13 | 3 | + 13 | +111 |
| Knoxville | 4 | + 38 | — 8 | .. | ..... | ..... |
| Nashville | 6 | + 39 | + 3 | 5 | + 5 | + 42 |
| OTHER CITIES* | 18 | + 19 | + 11 | 22 | + 3 | + 56 |
| DISTRICT | 94 | + 27 | + 9 | 73 | + 3 | + 60 |

* When fewer than 3 stores report in a given city, the sales or stocks are grouped together under "other cities."

percent in Louisiana. Unsatisfactory prices for the 1946 Irish-potato crop were undoubtedly responsible to a great extent. The peanut acreage, although estimated at 3 percent less than it was last year, will still be greater than the recommended crop-production goal. Louisiana rice growers plan to plant about 616,000 acres this year, compared with 592,000 in 1946. Burley-tobacco growers in Tennessee are reducing their 1947 acreages about 8 percent in accordance with their new quotas.

Because of frequent rains and an unusually late spring, farm work is behind schedule over most of the District. Crop prospects are uncertain, and pasture conditions are below normal. The District wheat crop, which is grown largely in Tennessee and Georgia, is estimated at eight million bushels, or about a fourth larger than last year's crop and considerably greater than the average for the preceding 10-year period.

Although the cash receipts for the nation's farmers probably will be about 22 percent higher during the first four months of this year than they were during the same period last year, the cash receipts for the District farmers will not show a proportionate increase. The higher farm incomes this year result from price rises rather than from larger volumes marketed. Higher livestock and food-grain prices account for most of the increase. All farmers' cash receipts from marketings during the first two months of 1947 were about a third greater than they were during the same period last year, but District farmers' were up only 4 percent. During the first four months of this year total District receipts from cotton, fruit, and vegetables will probably show little change from those of the same period last year. Because District farmers receive a relatively small proportion of their total income from food grains and livestock, they are not in as good a position, as farmers in some other sections are, to benefit from the present high prices. The effects of the price rises for agricultural products, therefore, will be greatest in those parts of the District that have well-developed livestock industries.

District farmers who cannot take the maximum advantage of the favorable prices for livestock, can offset the continuing rise in production costs only by getting larger returns from their staple cash crops, such as cotton. The index of prices paid by farmers for production goods rose from 215 percent of its 1910-14 average in February to 227 percent in March. Higher prices for building materials, machinery, and feed accounted for most of the increase. Since costs are likely to rise further, the size of the District's cotton crop and the price it will bring will have unusual significance this year.

B. R. R.

### Finance

The combined deposits of the 20 Sixth District weekly reporting member banks have fluctuated from week to week since the first of the year, but by April 16 they were at approximately the January 1 level. Although business and personal deposits, both demand and time, were 5 and 6 percent, respectively, above the previous year's levels, these increases were less than the 1945 increases. The decreases in the deposits, both of the Government and of the correspondent

banks, were the factors explaining the 12-percent decline in total deposits at these banks since mid-April 1946. Primarily the debt-redemption program of the Treasury, which resulted in successive calls on the banks' war-loan accounts, is the cause of this reduction.

The public debt, which stood at slightly less than 280 billion dollars when the debt-reduction program was inaugurated in March 1946, had been reduced to approximately 259 billion dollars by the first of the year. This reduction was continued during the first quarter of 1947, with payments in cash on maturing certificates and notes amounting to 4.2 billion dollars. During the first 10 days of April the total public debt, including guaranteed obligations, was reduced to 258 billion dollars chiefly through cash redemption of approximately 1.5 billion dollars worth of maturing certificates of indebtedness. Total reductions in the debt have, of course, not been as great as have total cash redemptions because of the continued sale of savings bonds, the sale of special issues to Federal agencies and trust funds, the issue of armed-forces-leave bonds, and the issue of noninterest-bearing notes to the international monetary fund. Though the total net reduction has amounted to no more than 22 billion dollars the total marketable issues owned principally by the banks have decreased almost 29 billion.

So far as these redemptions were made from war-loan accounts created through bank subscriptions in war-bond drives, the debt retirement has not reduced deposits and purchasing power in the hands of individuals and businesses. Although it has tightened the reserve positions of some banks, the tightening has not been sufficient to halt a fairly large expansion of loans. If the redemption program is continued, however, it will be because the Treasury's tax receipts are greater than its expenditures. Receipts for the first nine and half months of the current fiscal year exceeded expenditures approximately 2.6 billion dollars. Unless it is counteracted by an expansion of loans, the program's continuation may result in reduced personal and business deposits.

The use of personal and business deposits has increased, though their expansion in recent months has been moderate compared with what took place during the war years. Other-than-Government depositors of the weekly reporting banks in the District were using their deposits during March, for example, at a rate approximately 19 times a year, compared with one of 16 times a year during the corresponding month in 1946. During the war years as deposits expanded, their use declined, resulting in a general downward trend in turnover. Calculated on 1935-39 as a base period and adjusted for seasonal variations, the index of deposit turnover reached its lowest point in April 1945, when it was 75 percent. This reduction in the use of deposits was one factor that helped to lighten inflationary pressures during the war period. Since the latter part of 1946, however, when personal and demand deposits in the District continued to expand, though at a more moderate rate, the trend of the turnover index has been upward. Although war-expanded demand deposits have contributed to inflationary developments of recent months, price increases reflect their greater use more than their expansion.

C. T. T.

## Sixth District Indexes

**DEPARTMENT STORE SALES***

| | Adjusted** | | | Unadjusted | | |
|---|---|---|---|---|---|---|
| | Mar. 1947 | Feb. 1947 | Mar. 1946 | Mar. 1947 | Feb. 1947 | Mar. 1946 |
| DISTRICT | 346 | 338 | 328 | 346 | 298r | 315 |
| Atlanta | 374 | 359 | 390 | 392 | 338 | 373 |
| Baton Rouge | 356 | 358 | 347 | 362 | 322 | 337 |
| Birmingham | 331 | 325 | 318 | 332 | 279 | 298 |
| Chattanooga | 358 | 341 | 344 | 351 | 287 | 312 |
| Jackson | 322 | 327 | 317 | 311 | 281 | 292 |
| Jacksonville | 394 | 380 | 408 | 392 | 335 | 387 |
| Knoxville | 315 | 274 | 366 | 314 | 247 | 339 |
| Macon | 329 | 310 | 305 | 317 | 248 | 282 |
| Miami | 341 | 329 | 290 | 396 | 388 | 337 |
| Montgomery | 357 | 343 | 333 | 338 | 295 | 293 |
| Nashville | 412 | 361 | 417 | 407 | 318 | 393 |
| New Orleans | 317 | 300 | 275 | 301 | 264 | 253 |
| Tampa | 458 | 450 | 420 | 459 | 400 | 402 |

**DEPARTMENT STORE STOCKS**

| | Adjusted** | | | Unadjusted | | |
|---|---|---|---|---|---|---|
| | Mar. 1947 | Feb. 1947 | Mar. 1946 | Mar. 1947 | Feb. 1947 | Mar. 1946 |
| DISTRICT | 326 | 335 | 201 | 326 | 312r | 201 |
| Atlanta | 405 | 425 | 293 | 413 | 403 | 299 |
| Birmingham | 227 | 235 | 148 | 233 | 225 | 152 |
| Montgomery | 315 | 346 | 186 | 334 | 338 | 197 |
| Nashville | 450 | 455 | 317 | 468 | 446 | 330 |
| New Orleans | 310 | 311 | 141 | 327 | 312 | 149 |

**LUMBER PRODUCTION***

| | Adjusted** | | | Unadjusted | | |
|---|---|---|---|---|---|---|
| | Feb. 1947 | Jan. 1947 | Feb. 1946 | Feb. 1947 | Jan. 1947 | Feb. 1946 |
| SIX STATES | 124 | 115 | 103 | 122 | 100 | 101 |
| Alabama | 144 | 101 | 135 | 144 | 95 | 135 |
| Florida | 78 | 103 | 50 | 81 | 107 | 52 |
| Georgia | 143 | 142 | 142 | 140 | 128 | 139 |
| Louisiana | 97 | 73 | 59 | 93 | 67 | 57 |
| Mississippi | 151 | 110 | 97 | 145 | 99 | 93 |
| Tennessee | 105 | 166 | 146 | 95 | 126 | 131 |

| | COTTON CONSUMPTION* | | | COAL PRODUCTION* | | |
|---|---|---|---|---|---|---|
| | Mar. 1947 | Feb. 1947 | Mar. 1946 | Mar. 1947 | Feb. 1947 | Mar. 1946 |
| TOTAL | 170 | 177 | 157 | 173 | 175 | 193 |
| Alabama | 179 | 190 | 162 | 181 | 182 | 202 |
| Georgia | 171 | 175 | 159 | ... | ... | ... |
| Tennessee | 129 | 136 | 113 | 155 | 158 | 173 |

| | MANUFACTURING EMPLOYMENT*** | | | GASOLINE TAX COLLECTIONS | | |
|---|---|---|---|---|---|---|
| | Feb. 1947 | Jan. 1947 | Feb. 1946 | Mar. 1947 | Feb. 1947 | Mar. 1946 |
| SIX STATES | 145 | 145 | 122 | 153 | 159 | 132 |
| Alabama | 155 | 155r | 126 | 161 | 162 | 136 |
| Florida | 129 | 133r | 119 | 179 | 186 | 153 |
| Georgia | 135 | 135r | 128 | 144 | 151 | 125 |
| Louisiana | 134 | 134 | 130 | 142 | 134 | 121 |
| Mississippi | 158 | 158r | 140 | 144 | 148 | 122 |
| Tennessee | 156 | 154r | 102 | 140 | 162 | 128 |

**CONSUMERS' PRICE INDEX**

| | Feb. 1947 | Jan. 1947 | Feb. 1946 |
|---|---|---|---|
| ALL ITEMS | 158 | 159 | 134 |
| Food | 193 | 194 | 145 |
| Clothing | 174 | 173 | 146 |
| Rent | n.a. | n.a. | 114 |
| Fuel, elec. and ice | 121 | 121 | 111 |
| Home furnishings | 171 | 172 | 144 |
| Misc. | 139 | 139 | 131 |
| Purchasing power of dollar | .63 | .63 | .75 |

**CRUDE PETROLEUM PRODUCTION IN COASTAL LOUISIANA AND MISSISSIPPI***

| | Mar. 1947 | Feb. 1947 | Mar. 1946 |
|---|---|---|---|
| Unadjusted | 237 | 236 | 210 |
| Adjusted** | 236 | 232 | 209 |

**ELECTRIC POWER PRODUCTION***

| | Feb. 1947 | Jan. 1947 | Feb. 1946 |
|---|---|---|---|
| SIX STATES | 313 | 309 | 247 |
| Hydro-generated | 326 | 314 | 295 |
| Fuel-generated | 297 | 303 | 185 |

**ANNUAL RATE OF TURNOVER OF DEMAND DEPOSITS**

| | Mar. 1947 | Feb. 1947 | Mar. 1946 |
|---|---|---|---|
| Unadjusted | 18.7 | 18.4 | 15.9 |
| Adjusted** | 19.1 | 18.2 | 16.3 |
| Index** | 73.9 | 70.4 | 63.1 |

*Daily average basis
**Adjusted for seasonal variation
***1939 monthly average=100; other indexes, 1935-39=100
r Revised
n.a. Not available

# *The National Business Situation*

INDUSTRIAL output and factory employment were unchanged in March. Value of retail trade continued to show little change, after allowing for holiday buying. The general level of wholesale commodity prices declined slightly in the first three weeks of April, following increases in February and the early part of March.

### Industrial Production

The Board's seasonally adjusted index of industrial production in March was at a level of 189 percent of the 1935-39 average for the third consecutive month.

Output of durable manufactures continued to show a very slight gain in March, reaching a level of 223 percent of the 1935-39 average. Activity in the iron and steel industries advanced in March after a slight decline in February. Steel mill operations averaged 94 percent of capacity in March, and they have been maintained at about this rate during most of April. Activity in the machinery and transportation-equipment industries also showed a slight gain in March. Output of passenger cars totaled 303,000, and of trucks, 117,000. Lumber production continued to advance and in March was at the highest level for this season in almost 20 years. Output of most nonferrous metals at smelters and refineries continued to expand, following increases earlier in domestic mine production.

The Board's seasonally adjusted index of output of nondurable manufactures again declined by one point in March to a level of 175 percent of the 1935-39 average. Production in most lines was at the February rate or declined very slightly. Output of textile-mill and leather products in February and March remained somewhat below last year's peak rates.

Minerals production increased slightly in March to a level of 147 percent of the 1935-39 average, reflecting a continued advance in output of crude petroleum and a slight increase in coal production. Bituminous-coal output dropped sharply during the first two weeks of April, as work was curtailed at mines in a dispute over safety conditions, but subsequently increased.

### Employment

The number of employees in most lines of nonagricultural activity in March remained at about the level of other recent months, after allowance for usual seasonal changes. Total nonagricultural employment of about 42,500,000 persons was 7 percent higher than the level a year ago. The number of persons unemployed showed a slight seasonal decline in March to 2,330,000.

### Distribution

Value of department-store sales during the six weeks preceding the Easter holiday was 3 percent larger than during the corresponding number of weeks before Easter last year, reflecting chiefly a sharply higher level of sales of household appliances and men's clothing. Value of sales of most other goods sold at department stores was about the same as a year ago, although prices were generally higher than at that time. Retail sales of automobiles, radios, and office and farm equipment both in unit and dollar volume continued far in excess of last year's levels.

Freight carloadings rose in March owing mainly to increased shipments of grain and miscellaneous freight. Shipments of coal dropped sharply at the beginning of April and then recovered to the March rate during the week ending April 19. Shipments of forest products declined considerably during the first three weeks of April, while loadings of most other classes of freight showed little change.

### Commodity Prices

Wholesale prices of basic commodities generally declined from the middle of March to the latter part of April, with the largest decreases shown for hogs, fats and oils, coffee, print cloths, and steel scrap. Prices of corn, cotton, and copper, on the other hand, were at about the same level on April 24 as in the middle of March.

The Consumers' Price Index of the Bureau of Labor Statistics advanced 2 percent from February 15 to March 15, reflecting chiefly increases in food prices. Since that time prices of foods have declined somewhat and price reductions have been announced for certain other products by manufacturers and distributors.

### Construction

Total value of construction contracts awarded, as reported by the F. W. Dodge Corporation, was about one-third larger in March than in February, reflecting chiefly seasonal influences, but one-sixth smaller than in March 1946. The reduction from a year ago was in awards for private nonresidential construction, which were exceptionally large at that time. Value of residential awards increased by about one third from February to March and was slightly larger than in the same period last year. Since a year ago building costs have increased considerably and the number of dwelling units contracted for in March was somewhat less than the March 1946 volume. Construction activity continued to decline after allowance for seasonal variation.

### Treasury Finance and Bank Credit

During March and April the Treasury continued its program of debt retirement, using an excess of tax receipts over budget expenditures and drawing upon balances at commercial banks and Federal Reserve banks. Retirements, which aggregated about 4.8 billion dollars, included notes maturing on March 15, a portion of certificates maturing March 1 and April 1, and 200 million of Treasury bills each on April 17 and 24. A further reduction of 200 million was announced for the bill issue to mature May 1.

Federal Reserve holdings of Government securities declined by more than 2.2 billion dollars in the eight weeks ending April 23, while holdings of member banks in leading cities showed little change. The reserve position of member banks was maintained in this period by the reduction in Treasury balances at Federal Reserve Banks.

Bank deposits and currency in circulation, which had declined considerably in January and February, showed some net increase in March and the first half of April. Commercial loans increased further in March but declined in April. Real-estate and consumer loans increased moderately.

THE BOARD OF GOVERNORS